

REMARKS

In response to applicant's prior arguments, the Examiner has withdrawn the §102 rejection of claims 1-19. However, the Examiner has cautioned that the recitation of function or the manner in which a device is used is not considered in determining the novelty of structural inventions. In particular, applicant's prior characterization of Kelly et al (U.S. 5,779,984) as not having flexible flaps on the openings in the transfer plate thin enough to adequately transfer single tiers of tips at a time was found to be arguing functionality. The Examiner also notes applicant's further arguments as to the thickness of the flexible lips and finds that the terms "substantially thinner" is vague and indefinite. Similarly, the Examiner finds that applicant's prior argument relating to the push plate construction is based on function and not structure.

Regarding claim interpretation, the Examiner notes that because the pipette tips and the pipette holder are recited in the preamble of claims 1 and 20, the structure of the tips and holder have not been considered as elements of the invention and, as a result, the prior art cited by the Examiner is not required to be used with pipette tips and a holder having the particulars of the unclaimed elements. The Examiner suggests that the tips and holder should be positively claimed and the Examiner's recommendation is noted with appreciation. New claim 22 has been written in such a manner and claims 1 and 20 have been cancelled.

The drawings have been objected to under 37 CFR §1.183(a) as not showing a feature of the invention specified in the claims, namely, "flexible lips being substantially thinner than the thickness of said main body portion". This objection is respectfully traversed. As is clearly shown in each of Figs. 2A and 5-8, the flexible lips 23 are substantially thinner than the thickness of the main body portion 21 of the transfer plate 20. In fact, it is clear that flexible lips 23 are less than half the thickness of the body 21. Therefore, the drawing objection is believed to be in error and withdrawal thereof is respectfully requested.

Claims 5, 8-11, 17, 20 and 21 stand rejected under 35 USC §112 (second paragraph) as being indefinite.

The Examiner has objected to the recitation of the terms “generally” and “approximately” as being relative, having no numerical range or value and therefore being indeterminative. Claims 5 and 8-11 have been amended to delete the indefinite term. Claims 17, 20 and 21 have been cancelled.

With respect to claims 1 and 20, the recitation of “the underside” in lines 11 and 10, respectively, is objected to for having insufficient antecedent basis. Claims 1 and 20 have been cancelled and rewritten, in combination, as new claim 22. The limitation “the underside” has been eliminated from new claim 22.

Claim 7 is objected to for its recitation of the limitation “the flat support surface” in line 3, as having insufficient antecedent basis. Claim 7 has been cancelled.

Claim 9 is objected to for its recitation of “said support structure”, in lines 1-2, for which there is insufficient antecedent basis. The Examiner suggests that claim 9 should depend from claim 7 instead of claim 8. Claim 9 has been amended to change its dependency to new claim 22 which provides appropriate antecedent basis.

Claim 11 is objected to for reciting “the juncture”, in line 4, for which there is found to be insufficient antecedent basis. The phrase has been amended to recite “a juncture” which is believed to overcome the objection.

Claims 1, 5, 8 and 10 stand rejected under 35 USC §103(a) as unpatentable over Kelly et al in view of Borg (U.S. 5,735,562). The Examiner finds that Kelly et al discloses each of the limitations in the invention claimed in claims 1, 5, 8 and 10, except for the flexible lips being thinner than the main body portion of the transfer plate. However, Borg is cited as disclosing a device for holding and supporting containers that comprises apertures including inwardly projecting reinforced flanges (60) that are thinner than the main body portion (40).

This rejection is respectfully traversed in view of the amendments to the claims above and the comments which follow.

Independent claim 1 has been cancelled and replaced with new claim 22 comprising a combination of claims 1 and 20. New claim 22 has positively recited the pipette tips and the pipette holder as elements of the recited reloading system. In addition, in new dependent claim 23, the recitation of the “flexible lips being

substantially thinner than the thickness of the main body portion” has been amended to positively recite “said flexible lips are less than half the thickness of said main body portion”. This feature gives a positive dimensional value to the thickness of the lips and, as discussed above, this feature is clearly shown in the drawing figures. In addition, the specification has been amended to recite the dimensional feature shown in the drawings.

New claim 22 also includes a recitation of the support structure (legs 27) on the transfer plate (20). None of the cited prior art shows or suggests the use of this type of support structure on a transfer plate to support and separate each tier of pipette tips from the tier below in their stacked orientation, and to support the transfer plate on the flat support surface of the pipette holder in the tip transfer position. This feature will also be discussed below in the discussion relating to the rejection of claim 20 and, in particular, with respect to the teaching of Petrek (U.S. 6,286,678). However, applicants wish to note that, without the unique support structure 26, supporting the transfer plate 20, the pipette tips would container one another vertically and impose unacceptably high loads on lower tips when stacked, and the transfer plate would bend and distort during transfer and the lack of uniform loading would prevent proper transfer of the tips from the transfer plate to the tip holder 10.

New claims 22 and 23, as well as dependent claims 5, 8 and 10, are therefore believed to allowable.

Claims 1, 5, 6, 8 and 10 stand rejected under 35 USC §103(a) as being unpatentable over Kelly et al in view of Galbierz (U.S. 6,059,099). The Examiner finds that Kelly et al teaches each limitation of the rejected claims except the flexible flaps (lips) as being thinner than the main body portion of the transfer plate. Galbierz, however, is cited for disclosing a carrier for holding a plurality of bottles, the carrier including a top panel, side panels and a bottom panel; the top panel having at least a top, middle, and bottom ply, the top and second plies including a plurality of apertures with slits radiating outwardly from an edge from each of the apertures to define a plurality of top and second ply tabs. The tabs support and hold the bottles concentrically in the carrier and the tabs are thinner than the entire width of the panel (applicant’s main body

portion). Finally, the Examiner finds the second ply tabs to be generally coplanar to the undersurface of the panel (as recited in claim 5). The Examiner concludes that it would have been obvious to one of ordinary skill in the art to modify the device of Kelly et al to incorporate the tabs of Galbierz in order to ensure central alignment of the supported pipette tips.

This rejection is also respectfully traversed and reconsideration requested in view of the claim amendments above and the comments which follow.

As discussed above, independent claim 1 has been cancelled and replaced with new claims 22 and 23. Claim 22 recites, *inter alia*, the unique support structure comprising a plurality of legs 27 that depend downwardly from the underside of each transfer plate 20 to provide positive separation of the tiers of tips in the stacked orientation and support on the support surface 12 of the tip holder 10 in the transfer position. This feature is not shown or suggested in Kelly et al, and Galbierz adds nothing to Kelly et al to teach or suggest the feature of the support structure for the transfer plates.

Therefore, new claims 22 and 23 and dependent claims 5, 6, 8 and 10 are believed to be allowable.

Claims 7, 20 and 21 stand rejected under 35 USC §103(a) as unpatentable over Kelly et al and Galbierz, as applied above to claims 1, 5, 6, 8 and 10, and further in view of Petrek (U.S. 6,286,678). Petrek is added for its alleged disclosure of a pipette tip refill pack comprising a support plate with an array of holes containing pipette tips in an organized manner and including a guide for centering and guiding the support plate onto the tip rack with distal end portions of the tips aligned with corresponding holes in a tray in the tip rack, the support plate including vertically extending **lateral** support means (76, 81 or 88) adjacent at least some of the holes in the support plate of Petrek to engage the sides of the pipette tips to laterally support such tips against lateral rocking on the plate. The Examiner concludes that it would have been obvious to one of ordinary skill in the art to modify the Kelly et al/Galbierz device with a transfer plate to center the tips and prevent lateral rocking thereof.

The foregoing rejection is respectfully traversed and reconsideration thereof requested in view of the claim amendments above and the comments which follow.

Claims 7, 20 and 21 have been cancelled. A significant portion of the subject matter of cancelled claim 20 has been included in new claim 22 which is based on cancelled claim 1. Similarly, new claim 24 includes the addition of significant subject matter from cancelled claim 21. In particular, the recitation in new claim 22 of the support structure 26 which is formed integrally and depends downwardly from the underside of the transfer plate 20 to (1) engage the transfer plate of the tier immediately below in the stacked orientation, and (2) to support the transfer plate on the flat support surface 12 of the tip holder 10 in the transfer position, serve to distinguish new claims 22 and 24 from the combination of Kelly et al/Galbierz/Petrek. In particular, the support plates of Petrek (54a-54i) include no structure similar to applicant's support structure 26 that support the transfer plate on the transfer plate of the tier immediately below in a stacked orientation. In Petrek, referring particularly to Fig. 3, each of the support plates (54) rests directly on the upper ends of the pipette tips of the tip array (58) immediately below. The support means (76, 81 or 88), cited by the Examiner, provides no vertical support function with respect to a transfer plate and associated tier of tips either above or below. Instead, the support means of Petrek merely provide **lateral** stabilizing support, as indicated by the Examiner in his comments. In addition, when the lowermost tier of tips 58a and associated support plate 54a are pushed downwardly to refill the tip tray 20 on the refill rack 22, the support plate 54a itself is dispensed with the tips onto the tip tray 20. This is directly contrary to a key feature of applicant's support structure 26 which remains atop the support surface 12 of the tip holder 10 so that only the tips 11 are deposited on the tip holder support surface 12. New claims 22 and 24, directed respectively to the apparatus and method of the present invention, include structure and function which are neither disclosed nor suggested in the Kelly et al/Galbierz/Petrek combination. Therefore, claims 22 and 24 and new dependent claims 23 and 25 are believed to be allowable thereover. Claim 7 has been cancelled.

Claims 11, 13 and 17 stand rejected under 35 USC §103(a) as unpatentable over the combination of Kelly et al and Galbierz, as applied to claims 1, 5, 6, 8 and 10 above, and further in view of Lahti (U.S. 6,164,449). Lahti is cited for its disclosure of a push plate that includes fingers having a shoulder formed at a point where cylindrical proximal end and the tapered distal end of the fingers intersect. Lahti is also cited for its teaching of a pipette tip refill pack that has several layers of lips, with a bottom plate 7 (Fig. 5), a push plate 8 and a shell 9. Fig. 5 includes an inverted version of the tip holder and plate of Fig. 1 and is provided with pins 10 having a wider bottom part and a top part that is narrower than the top part of the tip 5, but otherwise corresponding to the conical shape thereof. As seen in Fig. 5, pins 10 comprise a cylindrical portion and a tapered portion which intersect to form a shoulder. The Examiner finds it would have been obvious to use the pins taught by Lahti in the modified device of Kelly et al/Galbierz to support and advance tips in the refill pack.

This rejection is also respectfully traversed in view of the foregoing amendments to the claims and the comments which follow. Independent claim 17 has been cancelled and, in its place, new claim 24 has been presented, claim 24 including significant subject matter taken from cancelled claim 21 and relating to the use of applicant's unique support structure 26 formed as a part of the transfer plate 20. Referring to Fig. 2 of Lahti, as well as Fig. 5, the refill pack (6) in which the tiers of tips are stacked utilizes only a single push plate (8) which is equivalent to applicant's transfer plate 20. In Lahti, therefore, there is no transfer plate 20 for each tier of tips that includes support structure bearing on an adjacent transfer plate, separating adjacent tiers of tips and preventing direct tip-to-tip contact in the vertical direction. Instead, as shown particularly in Fig. 2, each vertical column of tips is in continuous tip-to-tip contact with nothing equivalent to applicant's support structure 26 to maintain separation of the tiers of tips. New claim 24 includes, in method steps (3) and (4) the support structure and its function which distinguishes applicant's method from Lahti.

New claims 24 and 25 and amended claims 11 and 13 are believed to be allowable for the reason stated.

Claims 18 and 19 have been rejected under 35 USC §103(a) as unpatentable over the combination of Kelly et al/Galbierz/Lahti, as applied to claims 11, 13 and 17 above, and further in view of Petrek.

Claims 18 and 19 have been cancelled, however, the subject matter similar to that recited in claims 18 and 19 was taken from cancelled claim 21 and incorporated into new claim 24, all in a manner previously discussed.

Applicant's respectfully submit that new independent claims 22 and 24 and new dependent claims 23 and 25 are allowable, and remaining dependent claims 5, 6, 8-11 and 13 are allowable as well. Further favorable action is, therefore, earnestly solicited.

Respectfully submitted,

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